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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,321	04/25/2001	William E. Bogan	109869-130068	8787

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EXAMINER

ORTIZ RODRIGUEZ, CARLOS R

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 01/02/2004

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,321

Applicant(s)

BOGAN, WILLIAM E.

Examiner

Carlos Ortiz-Rodriguez

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☒ Claim(s) 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 27 and 28 objected to because of the following informalities: The term “machine accessible medium” does not provide limit as to what type of machine and medium is utilized, for example it does not disclose if it is a computer readable medium.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lynch et al. U.S. Patent No. 5,835,693 in view of Chun et al. U.S Patent No. 5,892,849.

Regarding claims 1,3-4,7-8,10-14,16-17,20-21 and 23-26, Lynch et al. discloses a center of motion(col 53 lines 40-41); and receiving a selection of a center of motion for an assembly of computer aided design(CAD) models of a mechanical design(see col 54 lines 42-47). Lynch also disclose receiving a selection of a component of the assembly associated with the selected center of motion(see fig 3.1 and fig 6.2).

But, Lynch et al. fails to clearly and specifically details regarding the grid pattern.

However Chun et al. discloses a method comprising: determining a range of motion for the component(see col lines 25-26); receiving a selection of an origin for a grid pattern(see col 6 lines 4-10);automatically generating the grid pattern based upon the determined range of motion; and automatically displaying the grid pattern at the selected origin; and receiving information of moving the grid pattern to a new location and adjusting the grid to ensure the range of motion is within the limits of the grid(see col 1 lines 19-30 and col 6 lines 16-41).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Lynch et al. and combining it with the invention disclosed by Chun et al. The results of this combination would lead to method and apparatus for graphing motion of computer aided design (CAD) geometry.

One of ordinary skill in the art would have been motivated to do this combination in because it is known in the art that in order to precisely and rapidly perform changes to an object with a CAD program a correct grid pattern must be utilized as disclosed by Chun et al.

Regarding claims 2 and 15, Lynch et al. in combination with Chun et al. disclose all the limitation based on claim 1 and 14. Chun et al. further discloses a method comprising: determining if the range of motion associated with the component has been modified; and adjusting the grid pattern to ensure that the displayed range of motion of the component is within limits of the grid pattern (see col 19 lines 29-35).

Regarding claims 5 and 18, Lynch et al. in combination with Chun et al. disclose all the limitation based on claim 1. Lynch et al. further discloses geometric information (see fig 5.10).

Regarding claims 6 and 19, Lynch et al. in combination with Chun et al. disclose all the limitation based on claim 1 and 14. Lynch et al. further discloses pre-stored constraints(see abstract line 7 and fig 4.4)

Regarding claims 9 and 22, Lynch et al. in combination with Chun et al. disclose all the limitation based on claim 1 and 14. Lynch et al. further discloses a scale (see col 54 line 30).

Regarding claims 27 and 28, Lynch et al. discloses a machine having instructions encoded therein, said instructions, executed by a machine, receiving a selection of a center of motion for an assembly of computer aided design (CAD) models of a mechanical design(see col 54 lines 42-47). Lynch also disclose receiving a selection of a component of the assembly associated with the selected center of motion(see fig 3.1 and fig 6.2).

But, Lynch et al. fails to clearly and specifically details regarding the grid pattern.

However Chun et al. discloses a method comprising: determining a range of motion for the component(see col lines 25-26); receiving a selection of an origin for a grid pattern(see col 6 lines 4-10);automatically generating the grid pattern based upon the determined range of motion; and automatically displaying the grid pattern at the selected origin.

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Lynch et al. and combining it with the invention disclosed by Chun et al.

One of ordinary skill in the art would have been motivated to do this combination in because it is known in the art that in order to precisely and rapidly perform changes to an object with a CAD program a correct grid pattern must be utilized as disclosed by Chun et al.

Response to Arguments

Applicant's arguments filed 10/17/03 with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

A center of motion is considered as a point/area around which something rotates or revolves. Chun et al. clearly discloses estimating the motion of the object and detecting the position of the grid using the information(center of motion) of the object(see col 5 lines 18-25). In order for Chun et al. to estimates the motion of the object utilizing its center of motion, this allows Chun et al. to reform the grid in accordance with the motion of the object.

Furthermore, Lynch et al. clearly discloses a center of motion(col 53 lines 40-41). Lynch additionally discloses receiving a selection of a center of motion for an assembly of computer aided design(CAD) models of a mechanical design(see col 54 lines 42-47).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to method and apparatus for graphing motion of computer aided design (CAD) geometry:

a. U.S. Pat. No. 6,243,096 to Takanashi, which discloses instruction input system with changeable cursor.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is (703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

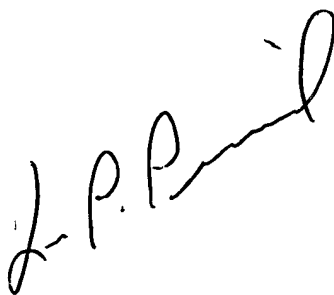
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Carlos Ortiz-Rodriguez

Patent Examiner

Art Unit 2125

A handwritten signature in black ink, appearing to read "L. P. Picard", written diagonally across the page.

cror

December 18, 2003

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100